

REMARKS

This responds to the Office Action mailed on September 27, 2005, and the references cited therewith. By this response, no claims are amended, canceled, or added. As a result, claims 1-36 remain pending in this application. Reconsideration of the application is requested in view of the following remarks is requested.

§102 Rejection of the Claims

A. Rejection: Claims 1-2, 5-13 and 16-36 were rejected under 35 U.S.C. § 102(e) for anticipation by Kolichtchak (US 2003/0014667).

B. Response: A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *M.P.E.P.* § 2131. To anticipate a claim, a reference must disclose every element of the challenged claim and enable one skilled in the art to make the anticipating subject matter. *PPG Industries, Inc. V. Guardian Industries Corp.*, 75 F.3d 1558, 37 USPQ2d 1618 (Fed. Cir. 1996). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Claim 1 recites "...an executable/non-executable (x) indicator associated with each page in memory wherein the TLB miss handler sets the x-indicator for a particular page to indicate "non-executable" when that page is accessed in a mode that allows writing to that page, and wherein the ITLB refuses to allow instructions from a page with an associated x-indicator of "non-executable" to be loaded." The Kolichtchak reference fails to teach the executable/non-executable (x) indicator as claimed. The executable/non-executable (x) indicator refuses access to a particular page when the page is accessed in a mode that allows writing and refuses to allow instructions from the page to be executed from a page marked with the executable/non-executable (x) indicator. The Kolichtchak reference sets a level of use for a particular page ("U" for user, or "S" for supervisor). The page fault handler is modified only when either the DLTB or the ITLB becomes filled. The user level marking of a page in the Kolichtchak reference, therefore, allows access to some level. Other conditions, namely the filling of either the DLTB or the ITLB, must occur before the page fault handler is further modified. The Kolichtchak

reference also fails to do the same operation. For example, in the invention of claim 1, the ITLB refuses to allow instructions from a page with an associated x-indicator of “non-executable” to be loaded. In Kolichtchak, the page fault handler terminates that program that was to execute the instructions. Simply put, the Kolichtchak reference fails to disclose every element of the challenged claim, and fails to disclose the identical invention in as complete detail as is contained in the claim. Consequently, the Examiner has failed to set forth a proper *prima facie* case of anticipation. Accordingly, claim 1 overcomes the Examiner’s rejection under 35 U.S.C. § 102(e) for anticipation by Kolichtchak (US 2003/0014667).

Claims 2 and 5 -9 each depend from claim 1 and include the recitations of claim by their dependency. Accordingly, the Kolichtchak reference fails to disclose the invention as claimed. Accordingly, claims 2 and 5 -9 now overcome the Examiner’s rejection under 35 USC § 102(e).

Claim 10 recites “...an executable/non-executable x-indicator associated with each page in memory wherein the DTLB miss handler sets the x-indicator for a particular page to indicate ‘non-executable’ when that page is accessed in a mode that allows writing to that page, and wherein the ITLB refuses to load instructions from a page if the x-indicator indicates a ‘non-executable’ state.” The Kolichtchak reference fails to teach the executable/non-executable (x) indicator as claimed. The executable/non-executable (x) indicator refuses access to a particular page when the page is accessed in a mode that allows writing and refuses to allow instructions from the page to be executed from a page marked with the executable/non-executable (x) indicator. The Kolichtchak reference sets a level of use for a particular page (“U” for user, or “S” for supervisor). The page fault handler is modified only when either the DLTB or the ITLB becomes filled. The user level marking of a page in the Kolichtchak reference, therefore, allows access to some level. Other conditions, namely the filling of either the DLTB or the ITLB, must occur before the page fault handler is further modified. The Kolichtchak reference also fails to do the same operation. For example, in the invention of claim 10, the ITLB refuses to allow instructions from a page with an associated x-indicator of “non-executable” to be loaded. In Kolichtchak, the page fault handler terminates that program that was to execute the instructions. Simply put, the Kolichtchak reference fails to disclose every element of the challenged claim, and fails to disclose the identical invention in as complete detail as is contained in the claim. Consequently, the Examiner has failed to set forth a proper *prima facie* case of anticipation.

Accordingly, claim 10 overcomes the Examiner's rejection under 35 U.S.C. § 102(e) for anticipation by Kolichtchak (US 2003/0014667).

Claims 11-13 and 16-20 depend from claim 10 and include the recitations of claim by their dependency. Accordingly, the Kolichtchak reference fails to disclose the invention as claimed. Accordingly, claims 11-13 and 16-20 now overcome the Examiner's rejection under 35 USC § 102(e).

Claim 20 recites "...translating an addresses for an instruction fetch; translating an addresses for a data access, wherein the translating of the address for the instruction fetch is done differently than the translating of the addresses for the data access, and wherein the translating of the address for the data access includes setting a non executable indication." The Kolichtchak reference fails to teach that translating of the address for the data access includes setting a non executable indication, as recited in claim 21. The Kolichtchak reference sets a level of use for a particular page ("U" for user, or "S" for supervisor). The page fault handler is modified only when either the DLTB or the ITLB becomes filled. The user level marking of a page in the Kolichtchak reference, therefore, allows access to some level. Other conditions, namely the filling of either the DLTB or the ITLB, must occur before the page fault handler is further modified. The Kolichtchak reference also fails to do the same operation. When all the conditions are fulfilled in Kolichtchak, the page fault handler produces a page fault indication. Kolichtchak does the same for ITLB requests. Put simply, the Kolichtchak reference fails to disclose every element of the challenged claim, and fails to disclose the identical invention in as complete detail as is contained in the claim. Consequently, the Examiner has failed to set forth a proper *prima facie* case of anticipation. Accordingly, claim 21 overcomes the Examiner's rejection under 35 U.S.C. § 102(e) for anticipation by Kolichtchak (US 2003/0014667).

Claims 22-26 depend from claim 21 and include the recitations of claim by their dependency. Accordingly, the Kolichtchak reference fails to disclose the invention as claimed. Accordingly, claims 22-26 now overcome the Examiner's rejection under 35 USC § 102(e).

Claim 27 includes the same recitation set forth from claim 21 above. Therefore, claim 27 overcomes the Examiner's rejection under 35 U.S.C. § 102(e) for anticipation by Kolichtchak (US 2003/0014667) for the same reasons as set forth above with respect to claim 21.

Claims 28-31 depend from claim 27 and include the recitations of claim by their dependency. Accordingly, the Kolichtchak reference fails to disclose the invention as claimed. Accordingly, claims 28-31 now overcome the Examiner's rejection under 35 USC § 102(e).

Claim 32 recites "...means for translating addresses for instructions; means for translating addresses for data, wherein means for translating addresses for instructions operates separately from means for translating addresses for data, and wherein means for translating the address of a page for a data access further includes means for setting a non executable indication." The Kolichtchak reference fails to teach that means for translating of the address for the data access further includes setting a non executable indication, as recited in claim 32. The Kolichtchak reference sets a level of use for a particular page ("U" for user, or "S" for supervisor). The page fault handler is modified only when either the DLTB or the ITLB becomes filled. The user level marking of a page in the Kolichtchak reference, therefore, allows access to some level. Other conditions, namely the filling of either the DLTB or the ITLB, must occur before the page fault handler is further modified. The Kolichtchak reference also fails to do the same operation. When all the conditions are fulfilled in Kolichtchak, the page fault handler produces a page fault indication. Kolichtchak does the same for ITLB requests. Further more, claim 32 recites that the means for translating addresses for instructions operates separately from means for translating addresses for data. The Kolichtchak reference appears to have a single page handler do both functions rather than operate separately. Therefore, the Kolichtchak reference fails to disclose every element of the challenged claim, and fails to disclose the identical invention in as complete detail as is contained in the claim. Consequently, the Examiner has failed to set forth a proper *prima facie* case of anticipation. Accordingly, claim 32 overcomes the Examiner's rejection under 35 U.S.C. § 102(e) for anticipation by Kolichtchak (US 2003/0014667).

Claims 33-36 depend from claim 32 and include the recitations of claim by their dependency. Accordingly, the Kolichtchak reference fails to disclose the invention as claimed. Accordingly, claims 33-36 now overcome the Examiner's rejection under 35 USC § 102(e).

§103 Rejection of the Claims

A. Rejection: Claims 3, 4, and 14-15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kolichtchak (US 2003/0014667).

B. Response: In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference or references must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)).

Claims 3 and 4 depend from claim 1 and include the limitations of claim 1 by their dependency. Claim 1 recites "...an executable/non-executable (x) indicator associated with each page in memory wherein the TLB miss handler sets the x-indicator for a particular page to indicate "non-executable" when that page is accessed in a mode that allows writing to that page, and wherein the ITLB refuses to allow instructions from a page with an associated x-indicator of "non-executable" to be loaded." The Kolichtchak reference fails to teach or suggest the executable/non-executable (x) indicator as claimed. The executable/non-executable (x) indicator refuses access to a particular page when the page is accessed in a mode that allows writing and refuses to allow instructions from the page to be executed from a page marked with the executable/non-executable (x) indicator. Rather, the Kolichtchak reference sets a level of use for a particular page ("U" for user, or "S" for supervisor). The page fault handler is modified only when either the DLTB or the ITLB becomes filled. The user level marking of a page in the Kolichtchak reference, therefore, allows access at some level. Other conditions, namely the filling of either the DLTB or the ITLB, must occur before the page fault handler is further modified. The Kolichtchak reference also fails to do the same operation. For example, in the invention of claim 1, the ITLB refuses to allow instructions from a page with an associated x-indicator of "non-executable" to be loaded. In Kolichtchak, the page fault handler terminates

that program that was to execute the instructions. Therefore, the Kolichtchak reference fails to teach or suggest all the claim limitations of claim 1. Claims 3 and 4 include the recitations of claim 1 and, therefore, the Kolichtchak reference fails to teach or suggest all the claim limitations of claims 3 and 4. Claims 3 and 4 also include further limitations not found in Kolichtchak, as set forth by the Examiner in paragraph 5 of the Office Action dated September 27, 2005.

Claims 14 and 15 depend from claim 10 and include the limitations of claim 10 by their dependency. Claim 10 recites "...an executable/non-executable x-indicator associated with each page in memory wherein the DTLB miss handler sets the x-indicator for a particular page to indicate 'non-executable' when that page is accessed in a mode that allows writing to that page, and wherein the ITLB refuses to load instructions from a page if the x-indicator indicates a 'non-executable' state." The Kolichtchak reference fails to teach or suggest the executable/non-executable (x) indicator as claimed. The executable/non-executable (x) indicator refuses access to a particular page when the page is accessed in a mode that allows writing and refuses to allow instructions from the page to be executed from a page marked with the executable/non-executable (x) indicator. The Kolichtchak reference sets a user level for a particular page ("U" for user, or "S" for supervisor). The page fault handler is modified only when either the DLTB or the ITLB becomes filled. The user level marking of a page in the Kolichtchak reference, therefore, allows access at some level. Other conditions, namely the filling of either the DLTB or the ITLB, must occur before the page fault handler is further modified. The Kolichtchak reference also fails to do the same operation. For example, in the invention of claim 10, the ITLB refuses to allow instructions from a page with an associated x-indicator of "non-executable" to be loaded. In Kolichtchak, the page fault handler terminates that program that was to execute the instructions. As a result, the Kolichtchak reference fails to teach or suggest all the claim limitations of claim 10. Claims 14 and 15 include the recitations of claim 10 and, therefore, the Kolichtchak reference fails to teach or suggest all the claim limitations of claims 14 and 15. Claims 14 and 15 also include further limitations not found in Kolichtchak, as set forth by the Examiner in paragraph 5 of the Office Action dated September 27, 2005.

In addition, the Examiner rejected claims 3, 4, 14 and 15 based solely on the Kolichtchak reference. Applicant respectfully traverses the single reference rejection under 35 U.S.C. §

103(a) since not all of the recited elements of the claims are found in the Kolichtchak reference. Since all the elements of the claim are not found in the Kolichtchak reference, Applicant requests that the Examiner cite a reference that includes the (x) executable/nonexecutable indicator and the specific ways it operates. In the alternative, Applicant requests that the Examiner place an affidavit of personal knowledge in the file for any elements the Examiner has failed to produce a reference clearly showing an element or elements. Still another alternative is that the Examiner indicates any taking official notice of the missing elements. Applicant respectfully objects to the reason set forth for obviousness set forth in the Office Action of September 27, 2005 or to any taking of official notice with a single reference obviousness rejection and, pursuant to M.P.E.P. § 2144.03.

For all of the reasons set forth above, claims 3, 4, 14 and 15 now overcome the Examiner's rejection under 35 USC § 103(a).

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6909 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.


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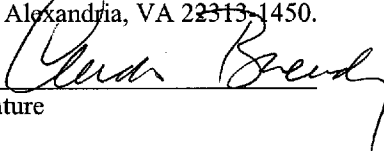
Date 2/27/06

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Date of Deposit: February 27, 2006

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